

1 ABSTRACT OF THE DISCLOSURE

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3 Methods of operation of different types of multiple
4 electrode apparatus vertically disposed in a cased well to
5 measure information useful to determine the resistivity of
6 adjacent geological formations from within the cased well are
7 described. The multiple electrode apparatus has a plurality
8 of spaced apart voltage measurement electrodes that
9 electrically engage a portion of the interior of the cased
10 well. During measurements of information useful to determine
11 formation resistivity, current is conducted between a first
12 current conducting electrode in electrical contact with the
13 interior of the cased well to a second current conducting
14 electrode that is also in electrical contact with the
15 interior of the cased well. The first and second current
16 conducting electrodes are separated by a distance sufficient
17 so that at least a portion of the current conducted between
18 the first and second current conducting electrodes is
19 conducted through the geological formation of interest.
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